

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

*13. *Treatment of Phthisis Pulmonalis by Cod Liver Oil.* By Dr. HUGHES BENNETT.—The effect of the oil in many cases of phthisis is very striking, and is well seen in hospital and dispensary practice. Individuals presenting emaciation, profuse sweats, constant cough and expectoration, as most prominent symptoms, with a degree of weakness that prevents their standing alone, after a few weeks' use of it are enabled to get up with ease and walk about, with a visible improvement in their general health, and an increased amount of flesh. The physical signs of the disease may continue unaffected for some time; but if the treatment be continued, the moist gurgling râles are exchanged for dry blowing sounds, which become more and more persistent, pectoriloquy is merged into bronchophony, the respiration is easier, and a check is evidently given to the ulcerative process, and the formation of purulent matter in the air-passages. In this state, patients often feel themselves so well that they insist on leaving the hospital, or give up their attendance on the dispensary. Dr. Bennett has frequently found it impossible to prevail on such persons to continue the treatment, and the consequence is, that, again returning to their often unhealthy employment and bad diet, and exposed to the other causes favourable to the production of the disease, the distressing symptoms again recur. Several cases, with one or more caverns in the lungs, have in this manner returned to the Infirmary from four to seven or eight times during the last six years, and on each occasion have gone out in their own opinion perfectly cured.

Notwithstanding the difficulties which have presented themselves in bringing about a complete cure of the disease, Dr. Bennett has succeeded, in several cases, in ascertaining that caverns have completely healed up, every symptom and physical sign indicating their presence having disappeared, and only slight dullness on percussion, and increased vocal resonance remaining as a proof of the puckering and induration of the pulmonary parenchyma attendant on the cicatrix. He gives two unequivocal cases where this occurred, and alludes to others which he purposes publishing at some future time.

Most cases of phthisis pulmonalis, especially in the advanced stage, are affected with more or less dyspepsia, which renders the stomach irritable, causes total loss of appetite, and is often the cause that prevents nourishment from being taken. In many instances there is no difficulty in employing the oil under these circumstances, but in others it cannot be retained on the stomach. It will then be necessary to calm the irritability of the organ, and the best remedy for this purpose, according to Dr. B.'s experience, is naphtha. It is to the power this substance possesses of checking vomiting, and thereby allowing nourishment to be retained, that he attributes the advantages which have attended its use in the practice of Dr. J. Hastings, and others. The diet should always be nutritive, without being stimulating; and counter-irritation to the chest is an excellent auxiliary. This treatment should be perseveringly persisted in; whilst, to prevent fresh exudations of tubercular matter, an equable temperature is of the highest importance. To equable temperature must be ascribed the advantages of favoured localities for phthisis, and with proper precautions it can be very well maintained in this climate.—*Monthly Journal and Retrospect*, May 1848, from *Bennett on Cod Liver Oil*. Edinburgh, 1848.

14. *Case of very extensive Gelatiniform Cancer of the Peritoneum, involving the Lymphatic Glands of the Abdomen and Ovaries, and stimulating Ascites.* By EDWARD BALLARD, M. D.—A married woman, aged 55 years, became a patient under Dr. Ballard's care, at the St. Pancras Dispensary, on January 17th last. She stated that for twenty-seven years she had been subject to more or less epigastric pain. Between the ages of forty-five and fifty-two years she had suffered from an almost constant and very debilitating menorrhagia. At that time, also, there was an increase in the epigastric pain—which was occasionally relieved by an aperient—with the evacuation of mucus and membranous shreds, and a tumour was discovered beneath the margin of the ribs on the right side. In June, 1846, she

slipped from some steps; a prolapsus of the wound followed, and she wore a pessary for three months. At this time the uterus ceased to prolapse, but she noticed the abdomen begin to enlarge, first at its lowest part; and she perceived a tumour in the hypogastrium, which, with that before detected, disappeared as the abdomen generally increased in size. About Michaelmas, in the same year, she struck her abdomen violently against a post, since which accident all her symptoms had been aggravated, the enlargement continuing to increase. She began to vomit a few months previously to her admission at the dispensary. On being visited, she presented the appearance of a person labouring under some severe organic disease, and was considerably emaciated. The abdomen was greatly enlarged, dull on percussion generally, and fluctuating most distinctly; it encroached very much upon the limits of the thoracic cavity. The umbilicus was remarkable in being stretched and flattened out, and not prominent, as is customary in ascites. The case was believed to be one of ascites, arising from cancerous disease about the larger divisions of the portal vein, and under part of the liver; fibrous tumour of the uterus was detected, and encysted ovarian disease believed to be likewise present. She was tapped on the 24th, but only a teaspoonful of clear jelly passed from the trocar, and she died on the 26th. On examination of the body, the peritoneal cavity was discovered to be full of a firm and very tenacious gelatinous matter, emitting a very sickly odour. A large ruptured ovarian cyst, containing a similar matter, occupied the lower part of the abdomen; and there were several smaller cysts about the inlet of the pelvis. The whole peritoneal surface of the abdominal wall and diaphragm was infiltrated with colloid cancer, as also was a considerable part of the peritoneal coat of the liver and spleen. There was a large tumour lying upon the right side, which was formed by the omentum and mesocolic glands converted into colloid; and the mesenteric glands, with those about the under surface of the liver, were similarly affected. This diseased mass was connected below with a fibrous tumour of the uterus. All the gelatinous products, wherever found, presented the characteristic cells of cancer. (All these appearances were illustrated by preparations and drawings.) In commenting upon the case, the author introduced his remarks by observing that, although colloid cancer of the peritoneum was not of very unfrequent occurrence, he had failed in his search after a case at all approaching it as regards extent, and had been unable to discover another recorded instance in which colloid matter had been found free within the cavity of the abdomen. He believed that the disease had commenced in the mesocolic glands, from which it had spread upwards over the liver and spleen to the abdominal wall, and downwards to the omentum and ovaria; and that the general effusion of colloid into the peritoneal cavity had taken place subsequently to the rupture of the ovarian cyst from the blow the patient had received upon the abdomen. These opinions were supported by considerations deduced from the appearances after death, and from the clinical history of the case. Admitting the insufficiency of the grounds on which M. Cruveilhier maintained the malignant nature of all encysted ovarian disease, the author nevertheless suggested that the opposite view of their nature would be found no less fallacious, holding that some forms at least deserved to be classed amongst cancerous growths, and alluding to the discovery of cancer cells in his own case, and in one which is reported as having occurred in the practice of Mr. F. Bird. He regarded the present case as establishing the possible existence of three forms of colloid cancer:—1st, the ordinary locular form; 2d, the encysted (so named by Cruveilhier); and 3d, a free or uninclosed form. He stated his belief that, in this instance, the plasma in which the free colloid was formed was only thrown out from such parts of the peritoneal surface as were in a state of disease. The paper concluded by calling the attention of the Society to two of the signs presented on physical examination of the abdomen; one was the perfection of the fluctuation, and the other was the unusual condition of the umbilicus, which the author suggested might assist in the formation of a more accurate diagnosis, should a similar case ever again occur.—*Proc. R. Med.-Chirurg. Soc. in Lond. Med. Gazette*, March 1847.

15. *Pathological Nature of Bright's Disease*.—Dr. W. T. GAIRDNER, in a paper read before the Medico-Chirurgical Society of Edinburgh, April 19th, maintained that the symptoms usually considered as indicating Bright's disease, are not found

in connection with one pathological lesion exclusively, but may be the result of several disorganizing processes. The author described the pathological lesions of the kidney as being essentially the same as those of other organs, the differences being the result of the anatomical disposition of the gland. The deposition of fatty granules might occur in connection either with acute or chronic forms of disease. Instances of its acute deposition are to be found in pneumonia, and other parenchymatous inflammations, where the so called exudation corpuscles have exactly the same mode of origin from the epithelium of the lung, as the fatty cells in the parenchyma of the kidney. Neither could the granular or fatty exudation be considered as the proximate cause of albuminuria or dropsy; as it might occur to a considerable extent without either of these consequences. Albuminuria was generally connected with imperfect formation of the secreting cells, and very frequently with desquamation, as described by Dr. Johnson, Mr. Simon, and others. Dr. Gairdner pointed out the analogy of this morbid process with the ordinary phenomena of mucous inflammations, as described by Henle. This he was disposed to consider as the initiatory process of Bright's disease; it might be succeeded by exudation, or by other pathological lesions, according to circumstances. The granulated kidney, the non-granulated (fatty) kidney, and a peculiar waxy degeneration, corresponding with the "marbled" kidney of Rayer, were described by the author as frequent in connection with Bright's disease. The result of most of these forms of disease was atrophy and contraction, which occurred by the absorption of the exudation, and collapse and obliteration of the tubes.

Dr. Hughes Bennett stated, that he had on several occasions examined the demonstrations of Dr. Gairdner, and could vouch for the accuracy of the facts he had described. Some of those, more especially such as were explanatory of the changes occurring in the tubes after the evacuation of their fatty contents, were new, and constituted a valuable contribution to our knowledge of the morbid anatomy and pathology of renal disease. The observations of Dr. Gairdner, as well as those of several German pathologists, and of Dr. Johnson of London, as regards fatty degeneration of the organ, were illustrative of a series of changes which occurred in numerous glands, and exhibited the great importance of paying attention to accumulation of the fatty element as a cause of disease. There could be little doubt that exudation into the tubes was one of the primary changes in the kidney, whereby, as the author had explained, secondary effects were produced on the Malpighian bodies and the capillaries. It was in recent cases, more especially such as occurred during or subsequent to scarlatina, that fibrinous moulds of the tubes were most frequently found in the urine, which could only be regarded as the natural excretion of the morbid product. They were analogous to the fibrinous moulds of the bronchi, expectorated in pneumonia. Dr. Bennett considered that the good effects of diuretics in certain cases of kidney disease, might be explained by the increased secretion of fluid favouring the expulsion of these moulds. In other cases, again (which further observations could only more particularly indicate), diaphoretics were of great service, owing apparently to the well-known sympathetic connection existing between the skin and all mucous membranes, but especially those of the kidney.

Professor Simpson stated, that he was much interested in this subject from the frequency of albuminuria in pregnant cases. Disease of the kidney led to the absorption of urea, and a train of nervous symptoms of the utmost importance. He related several interesting cases of these, and especially one in which the urine remained albuminous for four months, and, after everything had failed, was cured by diaphoretics. The discovery of the fatty nature of the disease was very important, and its frequent occurrence in cases of pregnancy might be explained by the circumstance, that milk was often secreted and circulated in the blood long before parturition.

Dr. Paterson asked, whether the albumen found in the urine was secreted in the tubes, or was poured out from the blood, and how the hematuria, which was so common a symptom in Bright's disease, was occasioned?

Dr. Gairdner said, in reference to the remark of Dr. Bennett, that he had thought it right to be very cautious in drawing therapeutical inferences from a pathology which was still in its infancy. It had been attempted by some writers on this subject, to deter the profession from the use of diuretics in the desquamative forms.

of the lesion; whereas these remedies were undoubtedly found useful in some cases, in which he believed their action was precisely similar to that of expectorants in catarrh and bronchitis. He had seen comparatively few cases of the temporary albuminuria described by Dr. Simpson, owing to his observations having been made in hospital practice. He considered the albuminuria undoubtedly a morbid secretion, and thought that the hematuria was generally seen where there was little of the fatty exudation.—*Monthly Journal and Retrospect of Medical Sciences*, May, 1848.

16. *On Certain Pathological Conditions of the Blood and Urine in Gout, Rheumatism, and Bright's Disease.* By ALFRED B. GARROD, M.D. The object of the author's researches is to prove that—

1st. In gout the blood always contains uric acid, and that this body can be crystallized from that fluid in the form of urate of soda.

2d. That the uric acid is diminished or absent in the urine immediately preceding the gouty paroxysm.

3d. That in patients subject to chronic gout with tophaceous deposits, the uric acid is always present in the blood, and deficient in the urine, both absolutely and relatively to the other organic matters, and that the chalk-like deposits appear to depend on an action in and around the joints, &c., vicarious to the "uric acid secreting function" of the kidneys.

4th. That the blood in gout sometimes yields a small amount of urea (no albumen being present in the urine).

Quantitative analyses and observations in favour of these conclusions were then detailed, and also the method used for separating the uric acid and urate of soda from the blood. Dr. Garrod thought it probable that the presence of a small amount of urea in gouty blood might be the cause of one of the symptoms which distinguished gouty from rheumatic inflammation—viz., the slightly œdematous condition of the inflamed part.

The author next spoke of some experiments made on the blood of the sheep, and of birds. Sheep's blood was not found to contain uric acid, and even from the blood of the pigeon, whose urine consists entirely of that substance, none could be obtained. Human blood, from patients in tolerable health, was always found to yield a trace of uric acid, but a quantity exceedingly minute compared with the amount in gouty blood.

The next researches were made on patients suffering from acute rheumatism, and it was found that rheumatic blood contains no more uric acid than the healthy fluid, and no urea can be extracted from it. Analysis made on the blood and urine in Bright's disease appeared to show that in albuminuria, 1, the blood always contains uric acid, but that the amount of this substance is subject to great variation; 2, that urea exists in large quantities in the blood, (which has been proved long since,) and that there appears to be no relation between the amount of the urea and uric acid; 3, that the kidneys are always deficient in their power of throwing off urea, but that, with regard to the uric acid, their excreting function is sometimes much injured, at other times little affected.

In conclusion, the author thought that the results detailed in the communication led to the inference, that uric acid is not a product of the action of the kidneys, (as has been often supposed,) but that it is merely excreted from the system by these organs; also that the excreting function of the kidneys, for the solid portion of the urine, is not simple, but that the urea and uric acid are separately eliminated, and that one of these functions may be impaired or destroyed, the other remaining entire; it appears, also, probable that, as in albuminuria, the "urea excreting function being chiefly impaired, we find a vicarious discharge of this body in the dropsical effusions;" so in gout the "uric acid excreting function" being defective, the tophaceous deposits are produced by a similar vicarious discharge of urate of soda. Gout would thus appear to depend on a loss of power, temporary or permanent, of the "uric acid excreting function" of the kidney; the premonitory symptoms, and those also which constitute the paroxysm, arising from an excess of the acid in the blood, and the effort to expel this "materies morbi" from the system; an undue formation of this compound favouring the occurrence of the disease; hence the connection between gout and uric acid cal-

culous disease, and the influence of high living, want of exercise, &c., in inducing it. Thus also the hereditary nature of gout, and its frequent occurrence in low states of the system can be explained—facts which are generally regarded as militating against the humoral pathology of the affection. The above researches appear also to remove acute rheumatism from gout, and to render it probable that they are only analogous in affecting similar structures.

Dr. Ure stated that Berthollet had found the uric acid to become diminished in the urine previous to a gouty paroxysm: that some French chemist had found a considerable amount of phosphate of lime in some tophaceous deposits; and that he had noticed their crystalline composition.

Dr. Williams expressed his gratification at the highly interesting and satisfactory results of Dr. Garrod's researches, which were the more important as establishing, on the basis of chemical demonstration, the true nature of gouty disease. It had long been a matter of high probability, that the ancient notion, that gout depends on a morbid matter in the blood, was correct; and many recent observations on the causes, symptoms, and sequels of the disease, had led to the legitimate inference, that this matter is lithic acid. This he (Dr. Williams) had learnt and taught for many years past. But the demonstrative proof,—the detection of this acid in the blood,—although often sought, had never been accomplished, and to Dr. Garrod was due the entire credit of having first achieved that desideratum. The deficiency of lithic acid in the urine in the commencement of a fit of the gout, in common with other febrile movements, had been noticed by Berzelius; and its abundant reappearance on the decline of the paroxysm had been a matter of common remark among practitioners. But Dr. Garrod's observation, that even when present in the blood, lithic acid is secreted in proportions varying from those of the other constituents of urine, was a fact interesting in a physiological as well as in a pathological point of view; although he (Dr. Williams) doubted that the explanation was such as the author suggested. He (Dr. Williams) thought that it would be taking too narrow a view of the origin of gout, to refer it to defective excretion only. Many facts had occurred to him which induced him to ascribe it also to imperfect assimilation, particularly of various proteinaceous nutriment of a low kind, (such as cheese, salted meat, and pastry,) which weak assimilative powers are unable to convert into blood, and which therefore decay into lower proximate elements. This corresponds with the experiments of Magendie, on the influence of azotized food in augmenting the animal matter in the urine; and Dr. Williams stated that he had in his own person experienced a proof in point, in finding some gouty symptoms invariably ensue after eating cheese for several days. On one other subject, Dr. Williams could not quite agree with the author.—that there is no pathological resemblance between gout and rheumatism. Practitioners generally acknowledge, that although in well-defined cases they are quite distinct, yet in others they appear to graduate into each other; and both in the copious deposits of lithic acids and its compounds, on the decline of acute rheumatism, and in the unquestionable power of colchicum and alkalies in the cure of the disease, he (Dr. Williams) found a resemblance to gout, not to be effaced by the failure to detect an augmented quantity of lithic acid in the blood. In many cases of acute rheumatism, the state of the urine plainly showed that lithic acid was excreted in abundance, and a continuance of Dr. Garrod's researches would probably discover in the blood in this disease, if not lithic acid, something akin to it, and ready to be converted into it.

Dr. G. O. Rees had observed lithic acid to be absent in the urine in some cases of Bright's disease, which fact accorded with Dr. Garrod's detection of it in the blood. The circumstance of Dr. Williams having found solid urinary secretion in the cortical part of the kidney, in no way affected Mr. Bowman's theory, that such solids were secreted in the tubular structure. Mr. Bowman, when speaking of tubular structure, meant the minute tubular arrangement for secretion which existed in the cortical part of the kidney, just where Dr. Williams said he had found the solid deposits of urine. These minute tubes were lined with epithelium, and were the continuations of the tubuli uriniferi as they approached the Malpighian bodies, and formed a considerable proportion of that part of the kidney called the cortical portion, as distinguished from the tubular, in rough anatomy. He (Dr.

Rees) wished to ask Dr. Garrod in what cases of Bright's disease he had found the uric acid in the greatest amount.

Dr. Garrod, in answer to the question of Dr. Rees, as to the cases of Bright's disease, or albuminuria, in which the largest quantity of uric acid had been found in the blood, could state, that as far as his experience went, it appeared that the amount was greatest in cases of the acute disease, as those which arise after scarlatina or exposure to intense cold, the kidneys being in a state of congestion. He had also found it in large quantity in the last stages of the chronic affection, where the kidneys had almost lost their power of excreting at all. In the early stage of the last disease, he had often found that the "uric acid excreting" function of the kidney was but little impaired. With regard to Dr. Williams' observations as to the relation existing between gout and rheumatism, he wished it to be understood that his analyses had been made on cases of the acute disease, as he considered that if any "materies morbi;" existed in the blood, it would be found in greatest abundance in such cases, and in these he had failed in detecting any such excess of uric acid. Hence, if the presence of uric acid in excess in the blood constituted its pathological condition in gout, then it would appear that the relation between the two diseases was not so close as had been considered by many. Dr. Garrod did not at all deny the existence of a "materies morbi;" he only stated that it could not be uric acid. He also wished it to be understood, that he did not consider the gouty paroxysm as depending altogether on the deficient excreting power of the kidney, for no doubt the increased formation of the morbid matter favoured greatly the disease; perhaps, also, other matters generated in the stomach might, for a time, impede the excreting power of the kidney for uric acid; and hence the influence of sour beer, certain wines, and articles of diet, as cheese, &c., in inducing an attack.—*Proceed. of R. Med. Chirurg. Soc., in Lond. Med. Gaz., Feb. 1848.*

17. *On Albuminuria independent of Renal Disease.* By Dr. FINGER of Prague.—Among about 600 medical cases of various kinds in the general hospital at Prague, the urine was found to contain albumen in 155. Among these were—

Tuberculosis,		186 cases.	Albuminuria in	46
Typhus,		88 "		29
Puerperal Fever,		46 "		32
Carcinoma,		14 "		6
Chlorosis,		6 "		2
Acute Rheumatism,		18 "		0
Ague,		10 "		1
Pneumonia,		33 "		15
Pleurisy,		14 "		2
Peritonitis,		6 "		2
Chronic Catarrh,		16 "		3
Diarrhœa,		65 "		8
Disease of Heart,		18 "		7
Epilepsy,		2 "		2

The remaining cases were 3 of chorea, 6 of paralysis, 2 of tetanus, and 3 of hysteria; in these no albumen was found.

Of the 46 cases of tuberculosis with albuminous urine, 35 died; in 19 of these there had been œdema of the lower extremities, leading to a suspicion of granular disease of the kidney, which was nevertheless found to exist in 2 cases only.

Of the 29 cases of typhus, 17 died; disease of the intestinal glands was present in all, combined in 2 cases with pneumonia; the kidneys were sound in all the cases. The albumen appeared in the urine generally from the 16th to the 25th day, while the disease was on the increase or at the height; in those which recovered, it uniformly declined and disappeared during the convalescence.

The large proportion of cases in which puerperal fever was accompanied by albuminous urine, is explained by the admixture of the urinary and lochial discharges; in 6 cases, however, which were fatal from peritonitis, and in which the kidneys were sound, the albumen continued to present itself in the urine after the disappearance of the lochia.

In 4 of the 6 cases of cancer, the albumen was evidently from the admixture of uterine discharges. The kidneys were sound in all.

In 9 of the cases of pneumonia, the albumen disappeared from the urine during convalescence. In 6, which died, the kidneys appeared sound.

Dr. Finger is disposed to conclude that, in cases like the greater part of the above, where albumen appears in the urine along with a fibrinous or purulent exudation into some organ of the body, it is in consequence of these exudations being re-absorbed into the blood, and evacuated as effete matter by the kidneys. In support of this view, he gives three cases where albumen appeared in the urine simultaneously with the formation of abscesses in different parts of the body; and in two of which it was observed to disappear rapidly on the abscess being opened and the pus evacuated.

Dr. Finger speaks strongly of the necessity of caution in the diagnosis of diseased kidneys from the presence of albuminous urine, where the evidence derived from the history of the patient is from any cause not conclusive. He narrates two very interesting cases of patients admitted to the hospital, with all the usual symptoms of cerebral disorder from retained urea, in whom there was also a large quantity of albumen in the urine; and which, nevertheless, after death presented no appearance of granular kidney. In one there was slight puerperal peritonitis, and inflammation of the brain and its membranes, with two abscesses in the right hemisphere; in the other there were inflammation and purulent deposition in the urinary passages, with obstruction of one ureter and impediment to the function of the corresponding kidney, which was very much distended. In both these cases the diagnosis of Bright's disease, which was the one arrived at, was unavoidable, from the absence of any history of the patients' illness, and the state of insensibility on admission.

In the two cases of epilepsy in which albuminuria was discovered, the albumen presented itself only after a convulsion, diminishing, and gradually disappearing, after the lapse of thirty-six hours. This observation is important in connection with the cases recorded by Lever and others, of the concurrence of albuminuria with puerperal convulsions.—*Präger Vierteljahrsschrift*, 1847, No. IV.

[We consider Dr. Finger's observations as an important contribution to the pathology of albuminuria; at the same time, we cannot view his results as by any means clearly or definitely established. We are sure that no modern pathologist who has given any attention to the minute examination of the kidney, would be content to assume the soundness of that organ from the absence of the ordinary appearances of granular disease. Moreover, if Dr. Finger's explanation of the albuminuria occurring during acute diseases be correct, how comes it that the albumen is present in the urine during the inflammation, when the fibrinous exudation is at the same moment thrown out elsewhere; and absent during the resolution, at the very time when that exudation is re-absorbed into the current of the circulation. Further, we know, from the observations of Schönlein and others, that the effete fibrine of inflammatory exudation is generally converted, in passing off by the kidneys, into lithate of ammonia, which is deposited as a sediment soluble by heat; and, if this be established as the usual process, surely the secretion of unaltered albuminous matter by the kidneys, must be the result of some disturbance of their function. On the whole, we think it most probable, from the evidence before us, that the secretion of albumen by the kidneys, is generally the result either of functional alteration or of organic disease of the organ itself; and the researches of Dr. Finger are valuable and important, as tending to show the circumstances under which this must readily occur as a temporary exudation, thereby presenting hints for present use in a diagnostic, and for future inquiry in a pathological, point of view.]—*Monthly Journ. and Retrospect*, April 1848.

18. *On Ozone as a Cause of Disease.* By Prof. SCHÖNBEIN.—The experiments made by Prof. Schönbein some years since, tended to show, that when a current of ordinary electricity passes from pointed bodies into the air, a substance is produced similar to that which becomes apparent, together with oxygen, at the positive electrode on the decomposition of water by a voltaic pile, or by the action of phosphorus on moist air. To this substance the term *ozone* has been applied, as expressive of its powerful odour. The subsequent experiments of the same dis-

tinguished chemist have further shown, that this remarkable substance is not only an eminently oxidizing agent, but that when inhaled, even if blended with a large quantity of air, it produces effects similar to those occasioned by chlorine and bromine; irritating the mucous membrane of the respiratory canals, and inducing acute catarrhal affections. As electricity is continually being evolved in the atmosphere, ozone must likewise be constantly produced in quantities which are probably proportionate to the intensity of the electrical discharges. As ozone at an ordinary temperature decomposes iodide of potassium by the separation of the iodine, it is evident that this iodide may, when mixed with a solution of starch, be used (if free from iodate of potash), for the purpose of detecting the presence of an infinitely small quantity of ozone in the atmosphere; since neither ordinary oxygen, nitrogen, nor a mixture of atmospheric air and carbonic acid, produces the same effect on iodide of potassium. This iodide paste will of course be coloured blue, with an intensity proportionate to the quantity of ozone present in the atmosphere. Professor Schönbein has found that the period in which the iodide paste turns blue in the open air varies extremely at different times; being occasionally coloured more intensely in a few hours, than at another period in the course of several days. On an average, this blue coloration is effected most rapidly in the colder seasons of the year; there are some days, however, during summer, in which the paste is very rapidly coloured, and this is especially the case in thunderstorms. Experience has shown that ozone is more rapidly produced by ordinary and voltaic electricity in proportion to the low degree of the temperature. It is a well-known fact, that in winter catarrhal affections of the mucous membrane of the respiratory organs frequently occur with such prevalence as to assume the character of an epidemic. Now if it were shown, that at certain periods, characterized by a general prevalence of catarrhal affections, large quantities of chlorine or bromine were present in the atmosphere, no one would hesitate to ascribe the cause of these diseases to the above substances. But it is an established fact, that by the inhalation of proportionally small quantities of ozone, physiological effects are produced similar to those which are occasioned by the inhalation of air charged with chlorine or bromine. This led Schönbein many years ago to conjecture that many catarrhal affections might be owing to the presence of ozone in the atmosphere. In the course of last winter, several catarrhal epidemics occurred in Basle, so that very few persons escaped; and Schönbein and many physicians of that town, instituted a series of daily observations, with the view of ascertaining how far the rapidity and intensity of the blue coloration of the iodide paste were connected with the prevalence and intensity of the catarrhal symptoms: the results were conclusive as to the simultaneity of the maximum of the coloration with extremest intensity of the epidemic. Further and more exact observations are, however, necessary for the establishment of this fact; and as an investigation of this nature may be so easily effected, we would call attention to the subject, which would be much elucidated by thermometrical and barometrical experiments. (A simple method of making the observation, is by mixing pulverized iodide of potassium with a solution of starch, and exposing to the open air a strip of paper that has been rubbed over with the mixture.) As ozone is immediately decomposed by sulphuretted hydrogen and sulphurous acid, it would not be wholly devoid of interest to determine, whether persons living in the neighbourhood of sulphur-springs, or workmen engaged in metallurgic operations in which sulphurous acid is liberated, are less liable to catarrhal affections than those living in a purer atmosphere. In conclusion, we would remark that two hypotheses prevail with reference to the nature of ozone. According to Delarive and Berzelius, ozone is an allotropic modification of oxygen, occasioned either by electricity or by the catalytic activity of certain substances, (as for instance phosphorus;) whilst Prof. Schönbein regards it as a higher stage of the oxidation of hydrogen, the combination of which is effected either by an electric or a catalytic influence.—*British and Foreign Medico-Chirurg. Review*, April 1848, from *Henle u. Pfeuffer's Zeitschrift für rationelle Medizin*, Bd. vi. Heft 2.

19. *Therapeutic Action of Cod Liver Oil.* By Dr. HUGHES BENNETT.—Dr. Bennett believes that the therapeutic action of the oil is dependent essentially on its being a fatty matter, perhaps more easily assimilated to the economy than any other

kind of fat. He thinks the views of Ascherson fundamentally correct, with this difference, that instead of oil and albumen uniting to form elementary cells, they only produce elementary molecules and granules, from which nuclei and cells are formed. To him it seems certain, that in chronic rheumatism and tubercular diseases, the albuminous compounds are in excess, and the oily compounds are diminished in the economy. The direct addition of the latter, therefore, is the most rational method of supplying the wants of the system.

It may reasonably be argued, that if the theory of its action as fatty matter be correct, any other kind of oil would prove just as serviceable, and certainly there are many much more agreeable to the palate. Experience, however, has decided this question in the negative. The reason of this probably is, that continued doses of the purest vegetable oils, as that of the olive and almond, are more or less purgative, and thereby diminish, instead of improving, the strength. It may also happen that the pungent properties of cod liver oil may have a favourable influence in retaining it on the stomach, and rendering it digestible. Lastly, it seems reasonable that an animal oil should be much more easily assimilated to the system than a vegetable one.

Since the publication of Dr. Bennett's work on cod liver oil, in 1841, the chemical views of Liebig and others have come into notice, and it is a remarkable fact that they perfectly harmonize with the histological and morphological theory therein advanced. For, whether we regard the oil as a carbonized principle of the food, as furnishing an element for respiration, or as necessary to the formation of elementary granules in a nutritive blastema, it seems equally fitted to serve the end in view.

That a purely chemical theory, however, is defective, is proved by the fact that every carbonized material is not fit for the purpose. We cannot produce an increased nutrition in rheumatic or phthisical constitutions by alcohol, sugar or starch, notwithstanding their chemical composition is so similar. The chemists may argue that these are converted into fats; and in the physiological condition so they are. In a pathological condition, however, when the digestive powers are enfeebled, this does not take place; and, in giving an animal oil ready made, we save the elementary organs the trouble, as it were, of doing this. Hence, in constitutions which cannot digest food, or convert it into the oily element, the introduction of cod liver oil, in large doses, causes the necessary principle easily to be imbibed into the lacteals, where, uniting with the albumen, it constitutes the elementary granules so necessary to nutrition.

It is on this account, that in every disease of a rheumatic or tubercular nature, attended with impairment of nutrition, emaciation, weakness, &c., cod liver oil is directly indicated. It operates by imparting to the system one of the great elements necessary for the nutrition of the animal economy, in cases where that element is essentially defective. In the hands of the rational practitioner, it is destined to be an important means of curing a class of diseases, hitherto considered of the most dangerous and fatal nature. As our knowledge of morbid processes improves, as the microscope and organic chemistry open up to us the primary alterations producing lesions of the body, the great importance of attending to the part played by the oily principle, as one of the essential elements of nutrition, will become apparent. Then, when pathology is made the companion of physiology, and both constitute the foundation for a rational system of therapeutics, the use of cod liver oil will be found as beautiful in theory as it has already been found beneficial in practice.—*Monthly Journal and Retrospect*, May 1848, from *Bennett on Cod Liver Oil*, Edin., 1848, 8vo.

20. *Quinine in Intermittent Fever*.—M. BOUCHARDAT conceives that intermittent fevers may be usefully arranged under four forms or varieties, according to the intensity of the disease, and the corresponding effect of quinine on its course and duration. The first form includes those obstinate cases which require large doses (15 to 30 grains) of quinine for their temporary cure, but in which, in spite of the methodical use of the remedy, the fever continues to recur for years. This variety is found in Italy, North of Africa, &c., and is contracted, according to Bouchardat, by a lengthened residence in the neighbourhood of marshes, the water of which contains sulpho-salts in solution. To the second form belong those cases which

require, but may be effectually cured by large doses (15 to 25 grains) of quinine. An intermittent of this kind prevails at Tours, and has been well described by M. Bretonneau, who observes that small doses are here insufficient. They habituate the patient to the action of quinine, irritate the stomach, and render it difficult to obtain the full action of large doses. The *third form* comprises those mild cases in which small doses (1 to 5 grains) are sufficient, not only to arrest the fever, but also to prevent its return. Lastly, he includes in a *fourth form*, the numerous cases in which change of residence, or admission into hospital, is sufficient to remove the disease.—*Gazette Medicale de Paris*, Jan. 1848.

[This classification of intermittents is certainly of considerable practical value, and serves to establish the principle, that the dissimilarity of action of the same remedy may indicate differences in diseases apparently identical occurring in distant parts of the globe. The cases of intermittent fever observed in Paris and Vienna, belong to the third and fourth forms of M. Bouchardat. Thus, the practice of Skoda of Vienna, which consists in giving three doses of quinine of two grains each, at intervals of one hour previous to the usual period of accession of the paroxysm, rarely fails to effect a cure in two or three days. On the second or third day he sometimes increases the third dose to four or six grains. The form of intermittent is, however, so mild, that we have repeatedly seen cases in other wards of the same hospital recover without any treatment whatever. On the other hand, the experience of physicians in Italy, Africa, and some parts of North America, has shown that small doses of quinine are quite inefficient in the treatment of the intermittent fever prevalent in these parts of the world.]—*Monthly Journ.*, May 1848.

21. *Double Pneumonia,—Hepaticization of the Posterior Portions of the Lower and Middle Lobes of both Lungs,—Recovery.* By W. H. RANKING, M. D.—A young gentleman, aged 17, of delicate frame, subject in infancy and childhood to repeated attacks of inflammatory croup, after exposure to cold was attacked March 22d with symptoms which were considered to indicate a common "bilious attack." It appears that he had some cough from the first, but this symptom was not so severe as to cause any anxiety on the part of his medical attendant until the 27th, when a sudden aggravation of the pulmonary symptoms induced him to seek my co-operation.

When seen by me on the morning of the 28th, the patient was in the following condition:—Decubitus on the back, raised by pillows; countenance sunken, pale, and anxious; *alæ nasi* in rapid motion; whole surface bathed in perspiration; respiration 60 in the minute, abrupt and superficial; pulse 130 to 140, feeble; cough slight; expectoration scanty, tenacious, and rusty. On raising him into a sitting posture, it was found that all the axillary muscles of respiration were in full play, and it was evident from the short and rapid breathing that a small portion only of the lungs was pervious to air.

Physical signs.—Dullness on percussion of the posterior portions of both lungs, extending from an inch above the angles of the scapula on the left side, and about half an inch on the right; above these points, and over the anterior regions of the chest, the stroke-sound was normal, or nearly so; over the entire space indicated by dullness on percussion, the vesicular murmur was extinct, and in its place loud bronchial or tubular breathing was heard, the expiratory "whiff" being peculiarly well marked. These signs were developed in their greatest intensity on the left side. In the upper lobes, posteriorly and in front, the respiration was puerile, but no crepitus could be discovered by the most attentive examination. The lower ribs behind were motionless.

The above combination of physical signs, pointing out distinctly the existence of double pneumonia in the stage of hepaticization, treatment to the best of my judgment, suitable to the emergency, was at once adopted. Six leeches were ordered between the angles of the scapulæ as the only depletory measure admissible, and these were to be followed by a blister. The subjoined pill was also exhibited every two hours:—

R.—Hydr. chlorid. gr. ij; ant. potass. tart. gr. ½; pulv. opii gr. ¼. Fiat Pilula. And eight grains of sesqui-carbonate of ammonia were given every four hours, in decoct. senekæ. Beef tea *ad libitum*.

29th. The leeches had bled well and the patient expressed himself as relieved at first by them, but at the time of our visit he was apparently all but asphyxiated by the sudden accumulation of bronchial secretions, which he was unable to expectorate. Suffocation appearing imminent from this cause, he was raised into the semi-erect posture, and brandy and water administered several times during the day.

30th. Has expectorated a considerable quantity of frothy phlegm, under the stimulus of the brandy, and the immediate danger of suffocation has passed. The mucous rhonchi have also subsided as suddenly as they appeared.

For the next two days there was no very obvious change, but it was evident that the patient did not lose ground, a matter, under the circumstances, sufficiently encouraging. Pergat.

April 2d. General aspect improved; respiration sank to 40, and the pulse to 100; skin cool; tubular breathing less distinct, and vesicular breathing beginning to appear, especially on the right side. No "*crepitus redux*" heard, though carefully listened for. As the bowels had been several times purged, and the motions were green, the calomel was replaced by mercurial dressing to the blister, and he had mist. creta.

4th. Expresses himself as considerably better; scarcely any cough, and expectoration scanty, but less tenacious, containing a small quantity of pus, and occasionally streaked with blood; gums becoming tender; purging suspended. Both lungs "clearing up;" tubular respiration almost gone on the right side; *still no crepitus*.

5th. Mercurial fetor well pronounced. The blister to be dressed less frequently. Ordered pulv. ipecac. gr. j; extr. conii gr. iv in pill, every six hours. To continue the mixture.

7th. Pulse 90; respiratory murmur heard fully to the base of the right lung; the left less permeable to air.

12th. Has continued steadily to improve; there has been but little cough or expectoration, but the respirations and pulse have gradually come down to the natural standard. Sits up and takes food with appetite. On examination of the chest, the left side is observed to be flatter than the right, and measures less by nearly an inch; it has a less extent of motion in breathing, but air may be heard to penetrate to the base, by causing the patient to take forced inspirations. Ordered potass. iodidi scr. j; vin. ferri oz. j; infus. gent. oz. vj. Sumat cochl. magn. ter in die.

From this period no regular reports have been taken, but occasional examination has satisfied me that the left lung is gradually recovering itself, and the side expanding in proportion. He has now returned to his usual food and habits.

Remarks.—The above case offers instructive evidence of what energetic medical treatment is able to accomplish, under apparently the most hopeless circumstances, and affords as triumphant an answer as could well be wished to those who would depreciate the efficacy of medicine, in order to magnify the restorative powers of unassisted nature. At the time of my first seeing the patient his vital energies were so much sunk, and the extent of lung rendered useless for the purposes of respiration so great, that I did not entertain the smallest hope of saving him, but, on the contrary, his death appeared all but inevitable—certain, if he remained many hours longer unrelieved. Pneumonia advanced to the stage of hepatization, and occupying a large portion of even *one* lung, is a disease of very considerable danger, and medical efforts are often baffled, although the patient possesses one sound lung for the maintenance of respiration. Here the major portion of both organs was rendered impermeable by air, and recovery must be looked upon as a rare, a fortunate event. Andral states that he has never known a patient recover from pneumonia, whose respirations reached fifty in the minute. In the present instance this number was exceeded, and they remained as high as forty for a space of two days.

Two points especially worthy of notice, are the trifling amount of cough and expectoration, and the restoration of the lungs, without the reappearance of the "*crepitous rale*." It is the not uncommon absence or trifling amount of cough, which causes pneumonia to be so often overlooked in its early stage by those who are not conversant with the practice of auscultation. An instance has occurred

to me within the past year of one lung becoming almost universally solidified from pneumonia, which the medical attendant, an elderly practitioner, quite unacquainted with auscultation, and occupied by a co-existing jaundice, had entirely failed to recognize; nor could I convince him of the fact, *because there had been but little pain and cough* in the earlier period of the attack. I saved this lady's life by at once commencing a vigorous mercurial treatment, but to this day I have reason to know the gentleman in question considers that the solidified lung was the offspring of my imagination.

The second point to be noticed, (the restoration of the hepatized lung without the reproduction of "crepitus,") is one of particular interest. From the time of Laennec till now it has been known, that when a portion of lung which has been solidified by inflammation begins to be restored, the crepitous rale which had disappeared as bronchial breathing becomes developed, again re-appears as the "crepitus redux." That this is the ordinary course of events is beyond dispute, and is alluded to by Watson, Williams, and, in fact, by every recent writer and lecturer on diseases of the chest. It may, therefore, be readily imagined, that I was not a little surprised to find that, though there was indisputable proof of amendment in the condition of the lungs of our patient, I yet could not on the most minute and repeated examination discover any "crepitus redux." The character of the breath-sound passed at once from the bronchial to the vesicular, the latter gradually gaining upon, and eventually displacing the latter. I could not at the time account for this, and was content to note it down as a *fact*, that "crepitus redux" is not an invariable accompaniment of the resolution of pneumonia; when, upon turning to that admirable example of bed side teaching, Graves' "Clinical Medicine," I found the same fact had been observed by its author, and under precisely the same circumstances as were offered in the present case—viz., recovery, with trifling cough, and little or no expectoration. Dr. Graves remarks, that in ordinary cases resolution of pneumonia takes place by increased secretion, together with interstitial absorption, but the latter alone is sufficient in certain instances. When such is the case, and no secretion takes place into the bronchial ramifications, there can be no "crepitus redux."

This case offers still another feature of interest, in the sudden occurrence of imminent suffocation from effusion into the larger bronchial tubes on the 29th. This effusion was evidently asthenic, resembling that which occurs towards the close of many other diseases. It might not have been of so much importance under some conditions of disease, but here it was a most formidable complication, obstructing what little portion of pulmonary tissue had been spared by the original malady. It was promptly met by the free exhibition of brandy, a few doses of which enabled the patient to discharge a quantity of frothy mucus. The urgent debility being thus obviated, the symptoms did not reappear.

The treatment was conducted on general principles. Depletion to any extent was inadmissible, and it is questionable if free blood-letting is of use after hepatization has taken place, even if the patient's strength would tolerate it. All that is necessary in this stage, is by removing a small quantity of blood, to induce something like a balance between the bulk of the circulating fluid, and the diminished capacity of the lungs. I regretted even the application of a few leeches, in the present instance, and am not sure that they were not the cause of the sudden bronchial effusion above mentioned. It will be seen that mercury was looked to as the sheet anchor. Such I regard it to be in the stage of hepatization. The time is then gone by when good is to be expected from the use of large doses of antimony. The air-cells are clogged by fibrinous deposit; and the best absorbent of lymph, whether in the pulmonary tissue or between the layers of the cornea, is mercury. The iodide of potassium also did good service in completing the resolution of the obstructed lung.—*Provincial Medical and Surgical Journal*, May 17, 1848.

22. *On the Nature, Cause, and Prevention of Scurvy.* By A. B. GARROD, M. D., (*Monthly Journal of Medical Science*, Jan. 1848.) It appears from the various accounts that we have of scurvy, that although impure air, cold, moisture, age, and condition of habit, may favour the occurrence of scurvy, yet none of them, Dr. Garrod conceives, can be regarded as the real cause which must be sought for in

the nature of the food. The causes of the disease, he says, are thus reduced to one of the two following, viz:—

1st. To the absence or deficiency of some *organic* substance in the food.

2d. To the absence or deficiency of some *inorganic* constituent.

Finding that all the theories of scurvy hitherto advanced were imperfect, Dr. G. was led to examine more minutely the composition of food under the use of which scurvy was capable of occurring, and also of such substances as had been proved beyond doubt to be anti-scorbutic, and afterwards to seek for the absence or deficiency of certain normal substances in the blood; and from such examinations he was led to the following conclusions:—

1st. That in all scorbutic diets, *potash* exists in much smaller quantities than in those which are capable of maintaining health.

2d. That all substances proved to act as anti-scorbutics contain a large amount of *potash*.

3d. That in scurvy the blood is deficient in *potash*, and the amount of that substance thrown out by the kidneys less than that which occurs in health.

4th. That scorbutic patients will recover when *potash* is added to their food, the other constituents remaining as before, both in quantity and quality, and without the use of succulent vegetables or milk.

5th. That the theory which ascribes the cause of scurvy to a deficiency of *potash* in the food, is also capable of rationally explaining many symptoms of that disease.

Dr. Garrod gives the following table showing the amount of potash contained in several articles of diet.

	Grains.
1 oz. of Baker's Best Bread (City),	0 259
1 oz. of Best Bread (West End),	0 257
1 oz. of Home-made Bread, probably containing potato flour,	0 262
1 oz. of Best White Flour,	0 100
1 oz. of Bran,	0 609
1 oz. of Rice,	0 005
1 oz. of Rice,	0 011
1 oz. of Oatmeal,	0 054
1 oz. of Split Peas,	0 529
1 oz. of Raw Beef,	0 599
1 oz. of Salt Beef, raw,	0 394
1 oz. of Salt Beef, boiled (slightly salted),	0 572
1 oz. of Boiled Mutton,	0 637
1 oz. of Dutch Cheese,	0 230
1 oz. of Boiled Potato of large size,	1 875
1 oz. of Raw Potato (small),	1 310
1 oz. of Boiled Potato, without peel and well done, water containing much potash,	0 529
1 oz. of Onion (small),	0 333
1 fluid oz. of London Milk,	0 309
1 oz. of Orange (not ripe) including septa,	0 675
1 fluid oz. of Lime Juice,	0 852
1 fluid oz. of Lemon Juice,	0 846

1st. *Potash is deficient in scorbutic diets.*—Dr. G. shows that this is the case, by an examination of the dietaries of some workhouses and prisons, the inmates of which have become scorbutic.

"In the diet of sailors," he observes, "we find abundance of meat (salted beef and pork); but no doubt the quality of these provisions is often much impaired by the prolonged action of the salt, causing the gradual exosmosis of the potash salts, and the substitution of those of soda. In an analysis of beef which has been exposed for only a few days to the action of brine, but where the thickness of muscle was not more than $1\frac{1}{2}$ inch, there was found to be a considerable diminution of the potash. One ounce of fresh beef gave 0 599 grains of potash, one ounce of salted beef 0 394 grains; and there can be little doubt but that a prolonged action of the brine would reduce very greatly the amount of potash

salts in the largest joints. So that the sailor's weekly dietary, when no vegetables can be procured, consisting of 9½ lbs. of salted meat, about 7 lbs. of flour in the form of biscuits, and 1½ pints of peas, would contain about 90 grains of potash, supposing the meat such as stated above.

"2d. *That all bodies proved to be anti-scorbutic contain a large amount of potash.*—All fruits contain this substance in abundance, as oranges, lemon, limes, grapes, gooseberries, &c., and these are all highly anti-scorbutic. Potatoes also, which perhaps are the most valuable as an addition to a dietary for the purpose of preventing scurvy, and owing to the scarcity of which article this disease has been so prevalent within the last two years, contain, as the above analyses prove, a very large amount of potash, and when boiled, (not too much, and unpeeled,) still retain most of that ingredient; this also accords with the fact, that potatoes, when cooked in the ordinary way, are anti-scorbutic, and at the same time explains why the hard core of that tuber, which is so much liked by the Irishman, is most powerful in preventing the occurrence of scurvy, (see Dr. Lonsdale in August number of this Journal.) Milk, which is undoubtedly a good anti-scorbutic, and upon which the young of animals are for some time sustained, contains a very large proportion of potash salts compared with those of soda, being an exception to the relation between these two classes of salts which is found in the other animal fluids,—a pint of milk (London) and having a sp. gr. of 1.021, containing 6.180 grains. This was probably considerably diluted, as the usual sp. gr. is from 1.026 to 1.030. Berzelius's analysis gives about 9 grains; but the sp. gr. of the milk which he analyzed was much greater, about one-third. Fresh meat also contains potash in rather large proportion; and there is no doubt that animals, such as the carnivora, living entirely on this substance in its uncooked state, take an amount of potash quite sufficient for the wants of the system. When we examine other articles noted for preventing or curing the disease in question, we find that potash enters into the composition of all in considerable quantities; this is true with regard to cabbages, turnips, onions, garlics, leeks, and hence their efficacy, and also of pickles and sour-kraut made from them; the same is the case with the young tops of plants, as of the *Pinus sylvestris*, &c., when a decoction is made. Potash is also found in spruce beer, wort, malt liquors, wines, especially the lighter description, which contain this substance in the form of a bitartrate, but which becomes deposited in the stronger varieties.

"3d. *In scurvy the blood is deficient in potash, and the amount of that substance thrown out by the kidneys is less than what takes place in health.*—A hundred grains of the dried serum of healthy blood, when incinerated and heated with the bichloride of platinum, gave 1.582 grains of the double chloride of potassium and platinum. A hundred grains of dried serum of scorbutic blood, treated in the same way, gave only 0.627 grains of the same salt; so that the amount of potash in scorbutic blood was little more than one-third that contained in the blood in health, although the total amount of saline matters was nearly equal. In one case, a female, at 50, complaining of great prostration of strength, spongy gums, effusion in both ankles, &c., the amount of urine passed was 22½ fluidounces in the twenty-four hours—sp. gr. 1.015. Reaction very acid, and on standing, deposited mucus intermixed with uric acid crystals. The amount of potash excreted in twenty-four hours was much less than in health, being less than 7 grains; but a slight accident prevented a very accurate determination of the quantity.

"In another case, the amount thrown out in twenty-four hours was 40 oz. Sp. gr. 1.010, and acid in its reaction.

"4th. *Scorbutic patients, when kept under a diet which gave rise to the disease, recover, when a few grains of potash are added to their food.*—In several cases which came under my care, the treatment consisted in the daily administration of a few grains (from 12 to 20) of some salt of potash mixed with syrup and water. Sometimes the bitartrate, at other times the acetate, and also the carbonate and phosphate were used. All the salts appeared to act alike, and I have little doubt but the chloride of potassium would be found equally efficacious. When the cases were thus treated, all vegetables, milk, and malt liquors were strictly prohibited; and yet the patients rapidly recovered. Other cases were treated by fresh vegetables and milk: these also recovered, but certainly not more quickly than those from whom these substances were withheld, and potash salts substituted. On looking over the works

of several writers on scurvy, I have frequently found that some *potash* salt has been administered with *marked* benefit; thus, nitre has been recommended, nitre dissolved in vinegar, the bitartrate of potash, the oxalate of potassa; but the efficacy has always been ascribed to the acid contained in these substances, and no attention has been paid to the base.

"5th. *The theory which ascribes the cause of scurvy to a deficiency of potash in the system, is capable of explaining some of its symptoms*—Both soda and potash are constant constituents of the animal body, and it appears that they are not capable of replacing each other; for example, we always find the potash to exist in large quantities in the ash of muscle, soda in very small quantities (Berzelius, Liebig); in the ash of the blood we find the relation reversed. It appears, also, that the muscular system requires the presence of potash, and we should therefore expect to find that where there is a deficient supply of this base, the effect would soon be manifested in the functions of that system. This we find to be the case in scurvy; without any amount of wasting of the body we find marked muscular debility, and this perhaps is one of the earliest symptoms of the disease."

23. *Tubercle and Cancer.*—In the hospitals of Paris, Dr. ROGETTA states (*Annales de Thérapeutique*, November 1847) the greatest mortality is owing to pulmonary tubercle and cancerous affections. Cancer is found with fearful frequency, in all its forms, in every region and in every tissue. It is an incurable disease, whether operated upon or not, and we are ignorant whether the most successful operation has ever retarded for a moment its natural termination. There is not even a general indication with respect to its treatment, and prescriptions are limited to opiates in every form, in the vain presumption that such remedies calm the pains. The disease is incomparably less frequent in the centre of Italy, but instead, there are continually found severe affections of the arterial trunk, especially spontaneous aneurisms, with general disease of the arteries, which often render operations inefficacious or insufficient.

24. *Free Communication between the Ventricles without Cyanosis.*—Dr. HARE exhibited to the Pathological Society of London, April 17th, two cases of malformation of the heart. The subject of the first case was a child five months of age. The ventricles were hypertrophied without dilatation, and there was an aperture in the septum ventriculorum.

The subject of the second was a child fourteen months old, the ventricles were slightly dilated and not hypertrophied; the foramen ovale was imperfectly closed, and there was imperfection of the septum ventriculorum. Notwithstanding the communication between the ventricles, there was no cyanosis. We are thus furnished with two more to the numerous cases already recorded, showing that the mixture of venous and arterial blood is not the cause of cyanosis.

25. *Erysipelas of the Hairy Scalp.* By M. GRISOLLE.—Erysipelas of the hairy scalp without consecutive extension to the face is so rare a disease, that M. Chomel has not seen more than three or four cases during his long practice. An example falling recently under M. Grisolles's observation, he made a few remarks upon it. In this case the disease occurred without any previous injury or wound of the scalp whatever; and it offered a good example of a characteristic of the affection pointed out long since by M. Chomel,—namely, enlargement of the cervical glands. This is not a constant though a very common symptom, and precedes the occurrence of the erysipelas by two or three days; and whenever M. Grisolles meets with it in an individual otherwise well, and suffering from no chronic affection of the head, or wound or erosion in the vicinity, he always prophesies the supervention of erysipelas of the scalp. In the present case, the earliest symptoms were a stiffness of the neck and an enlargement of these glands. These enlargements also occur in other affections, but then they do so *consecutively* only, and do not form, as in this erysipelas, a *precursory* symptom. It is of importance to attend to this, as erysipelas here manifests itself sometimes only by very obscure symptoms. Pain and œdema of the scalp are, however, usually present, and redness may be seen by close examination. Vesicles never form on the scalp,

the disease usually terminating by desquamation, which may be prolonged for several weeks. Numerous small abscesses sometimes appear at the close of the disease. When the disease is traumatic, it may take on the phlegmonous form, and the case then becomes very serious. However great the detachment of parts this may cause, gangrene of the scalp never occurs; which Dupuytren explained by the fact of the vessels passing between the aponeurosis and the skin remaining uninjured amidst the destruction of the cellular tissue. Delirium is one of the symptoms most to be feared. It is, however, only sympathetic, and not due to inflammation of the brain or its membranes; for in the autopsies made in these cases by MM. Chomel, Louis, and Grisolle, no apparent lesions beyond a vivid injection of the scalp have been discovered. M. Grisolle predicted that the erysipelas in this case would not extend to the face, in consequence of the absence of the well-defined line and the red indurated border, which are always seen in erratic erysipelas.—*B. and F. Med. Chir. Rev.*, April 1848, from *L'Union Médicale*, No. 14.

26. *Condition of the Gums in Phthisis.*—Dr. FREDERIQ's attention was first called to this subject in 1844, when he observed a line of a red brick colour near the free edge of the otherwise normal gums of a phthisical patient. The line was very narrow, and ran parallel with the edge of the gums, but only opposite the incisors and canine teeth. Since that period, he has examined the gums in numerous subjects of phthisis, and has always found this red line more or less distinctly visible, although sometimes only opposite the inferior median incisors. The researches of the author do not enable him to say whether this sign manifests itself as one of the earliest symptoms of phthisis, nor to declare absolutely that it is seen in no other disease, although he has never yet met with it in such.—*Ibid.* from *L'Union Médicale*, No. 5, 1848.

27. *Laryngitis.*—[Mr. PARR communicated to the Surgical Society of Ireland, (March 4th,) the following interesting case of Laryngitis.]

CASE I.—James Anderson, ætat. 30, a delicate-looking man, carpenter by trade, admitted into the temporary fever hospital under my care, about four weeks ago, labouring under pneumonia, for which I cupped, blistered, and mercurialized him. In the course of ten or fourteen days he was convalescent, the disease having terminated by resolution. On Wednesday, the 23d of February, upon visiting this patient, I found him complaining of some difficulty of swallowing from a sore throat. Upon examining the fauces, the velum and tonsils were found inflamed. There was no difficulty of breathing. For this I applied a few leeches to the angle of the jaw, and touched the surface with solution of nitrate of silver, and freed the bowels. The following day the symptoms were not relieved; the tonsils were slightly enlarged, the right presenting one small speck of ulceration. I looked upon the case as one of cynanche tonsillaris, caused by exposure to the draught of a window which was near his bed. On the 25th I observed a slight stridor. Patient complained of increased cough and expectoration of frothy mucus during the night.

Upon passing the finger into the throat, the epiglottis was found to be soft and erect, the voice raucous, and pain caused by pressure on the thyroid cartilage; respiration laboured; pulse quick, and countenance anxious.

Concluding the patient to be labouring under laryngitis, I ordered ʒss of calomel immediately, to be followed every second hour by 2 grs. and gr. ¼ of opium and 4 oz. of wine.

Upon visiting the following morning, my hopes of success from the mercury were disappointed by finding the patient had refused to take more than two doses of the medicine from the pain occasioned by swallowing. The symptoms were not relieved, but a very slight mercurial fetor existed. It was determined, in consultation with Dr. Brady, to give the mercury a fair trial, and so the small doses were repeated. At eight P. M., no appreciable amendment was discovered; but as he stated he felt some relief, and fetor was more evident, the remedy was persevered in. About twelve that night, pytalism was fully established, dysphagia much diminished, and breathing considerably relieved. After this he fell into a sleep which lasted two or three hours, at the end of which period he awoke in

a state of great exhaustion, from which he never rallied, and under which he gradually sank about five the following morning.

Twenty-eight hours after death, I examined the parts and found the mucous membrane of the fauces highly vascular, the uvula infiltrated, the epiglottis much thickened and inflamed, the rima glottidis reduced to a small slit, through which only the handle of the scalpel could be introduced. The mucous membrane of the trachea was highly vascular, presenting no trace of ulceration or adventitious membrane.

CASE II.—The next case is that of a girl, five or six years of age, who suffered from an attack of the epidemic, accompanied by some slight bronchitic affection, from which she was convalescing. On the 28th of February my attention was attracted by a peculiar hard cough, having the ringing sound, so characteristic of, and described as the harbinger of croup. The little patient complained of no uneasiness, nor had she been observed to cough for some days previous. The pulse was not accelerated, nor was there any difficulty of breathing. Being fearful of an attack of croup, I ordered a solution of tartar emetic (one grain to the ounce), of which a teaspoonful was given every twenty minutes till it vomited, and then continued during the day in smaller doses. Low diet.

29th. The medicine produced its emetic effects, and no further cough occurred, but a slight hoarseness remained. The medicine to be continued in smaller doses.

About seven that evening, intense dyspnœa occurred, which threatened to carry off the patient. Four leeches were applied to the thyroid cartilage, and the tartar emetic increased. A large quantity of frothy mucus was ejected. The leeches bled freely, and greatly relieved the patient. About twelve the child was comparatively easy, but did not sleep. Towards morning, the spasm increased, and upon seeing the patient at nine A.M., the breathing was most laboured, the child gasping, the diaphragm and intercostals acting powerfully, the lips were livid, and breath cold—in fact, each gasp appeared as if it would be the last. Dr. Moss and I concluded that there was no chance of saving the life of the child but by means of operation; so as quickly as I could procure the instruments, tracheotomy was performed at eleven. No blood of any amount was lost. Upon opening the trachea, great relief was experienced, the lividity partly disappeared, and the pulse became fuller. The patient was then wrapped in warm flannel, and placed in bed by the fire, being ordered one grain of calomel every hour, with a small quantity of wine. In twenty minutes after the operation, she fell asleep, which lasted about an hour and a half, when she awoke and asked for drink; almost immediately after, she began to sink, and died in ten minutes.

From the foregoing cases, we must be particularly struck with the necessity of carefully watching all convalescents, whether from fever, pneumonia, or in fact, any disease which tends to depress the powers of life.

The occurrence of laryngeal affections is by no means rare after fever, and the treatment of such more difficult, and the applications of antiphlogistic measures more hazardous than in idiopathic affections of the like nature.

The rapidity with which this disease runs its course to a fatal termination renders it imperative that something decisive should be done, and that quickly.

Now, as to the application of the ordinary measures made use of in the treatment of this disease (occurring as a primary affection), the first of the foregoing cases indicates the danger of waiting for mercury to exhibit its specific influence; and the second, the inefficacy of tartar emetic to remove the mechanical obstruction; and thus where tracheotomy is finally had recourse to, tends to bring a good operation into disrepute.

In one case, we have the mineral producing salivation (but at a late period), and thus relieving the symptoms, and holding out hopes of ultimate success; but these were frustrated, in consequence of the low ebb to which the powers of life were reduced, by three causes—first, pneumonia; second, the secondary, or laryngeal affection; and thirdly, the effect of the remedy, notwithstanding the use of stimuli.

That the existence of mercurial action in the system does not modify the effects of inflammation, is evident, as this man was not entirely free from the action of the mineral when seized with the secondary affection.

Another important point is exhibited in this case—namely, that the disease of such a fearful nature may assume at first an appearance of one of every day occurrence—in fact, it may commence as a common sore throat.

Now, as to the propriety of performing tracheotomy in this case at an early period of the disease (notwithstanding the pre-existence of pneumonia), would that operation have afforded hope of ultimate success? I fear not, as the patient would have had to battle against bronchitis, which is almost a constant consequence of the operation.

However, I proposed the operation, but as it was considered that mercury had not had a fair trial, so it was determined to persevere in its use so long as hopes of success could be entertained. The result we have seen.

In the second case we see the fatal result follow the operation sixteen hours after the disease declared itself. The cause of failure in this instance is evident. Had the child had the benefit of the simple operation after the leeching and tartar emetic failed in affording permanent relief, I have no doubt it would have been successful.

From these facts I argue that the frequent failure of tracheotomy, like the similar result after the operation for the relief of strangulated hernia, is due to that remedy being too long delayed, in order to make use of less certain means of cure.

Mr. Parr has seen four cases of this disease, one of which was operated on by Dr. Porter, and recovered. In reply to a remark of Dr. O'Ryan, that he had seen in one of the French Journals scarifications of the rima glottidis recommended, Dr. Parr observed that the French had invented a sort of ring, of which he had two or three sizes, which was passed into the mouth, and kept down, the base of the tongue, so that by means of such an instrument, scarifications of the rima glottidis might be effected without much difficulty.—*Dublin Med. Press.*

[A similar operation has been recommended by Dr. Buck in œdema of the glottis. See this Journal for Oct. 1847, p. 543.]

28. *Steracutine*.—Dr. VERGA ANDREA, of Milan, read a communication to the Italian Scientific Congress, held at Venice, Sept., 1847, on a fatty substance of a greenish colour, sometimes passed by children at the breast, and to which the name of steracutine was given some time ago by Prof. Semmola, of Naples, and the production of which the Prof. ascribes to the imperfect digestion of the butyraceous portion of the milk. Dr. Verga's researches tend to elucidate the following points:—

1. That children at the breast void such solid fatty concretions, when under the influence of certain diseases, is correct. These concretions are more or less rounded, transparent in their periphery, soft to the touch, insoluble in water, but soluble in alcohol.

2. This substance is not voided by sucking children only; they have been seen at six and seven years old, and even in adults.

3. Nervous diseases are not the only affections connected with it; the author has observed it in measles and meningitis.

4. This substance is almost exclusively composed of stearine, and cholesterine exists in it in a very small proportion.

5. There is no constant and regular connection between these evacuations and the progress of the diseases during which they may be observed.

6. Like other excretions, this may prove critical and salutary, or it may be merely symptomatic, and of a bad omen.—*Lancet*, March 18, 1848, from *L'Union Médicale*.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

29. *Cases of Femoral and Popliteal Aneurism successfully treated by Compression*.—A case of femoral aneurism cured by compression in thirty-three hours, by Staff-Surgeon HUMPHREY; and another of popliteal aneurism cured by compression in six days, by J. TUFFNEL, Esq., with some very interesting remarks on these cases